



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,978	09/12/2003	Ludmila Cherkasova	200313317-1	6116
22879 7590 04/29/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
			EXAMINER KIM, TAE K	
			ART UNIT 2453	PAPER NUMBER
			NOTIFICATION DATE 04/29/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM

ipa.mail@hp.com

jessica.l.fusek@hp.com

Office Action Summary

Application No.

10/660,978

Applicant(s)

CHERKASOVA ET AL.

Examiner

TAE K. KIM

Art Unit

2453

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35, 37-39 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27, 38-41 and 44 is/are allowed.
- 6) ☒ Claim(s) 28-37, 42 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is in response to the Applicant's response filed on January 21, 2009. Claims 40 and 41 have been cancelled by the Applicant. Claims 1, 10, 16, 17, 20, 28, 32, 33, and 44 have been amended by the Applicant. Claims 1 – 35, 37 – 39, and 42 – 44, where Claims 1, 10, 16, 25, 28, 32, and 44 are in independent form, are presented for examination.

Response to Arguments

Applicant's arguments filed on January 21, 2009 have been fully considered but they are not persuasive. Applicant argued:

- a) Regarding Claim 10 is non-obvious over claim 1 of U.S. Patent 7,424,528 (hereinafter "'528 Patent").
- b) Regarding Claim 32 is non-obvious over claim 1 of the '528 Patent.
- c) Regarding Claim 28, Lumelsky does not disclose or suggest a "corresponding computed *resource cost* of the at least one server configuration for serving the workload over the duration of time" (emphasis added).
- d) Regarding Claim 32, Lumelsky does not disclose or suggest that "the number of concurrent client accesses are *categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses*" (emphasis added).

- e) Regarding Claim 43, Lumelsky neither discloses a "corresponding computed *resource cost* of the at least one server configuration for serving the workload over the duration of time" (emphasis added) nor that "the number of concurrent client accesses are *categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses*" (emphasis added).
- f) Regarding Claims 1, 16, 25, and 44, Lumelsky, in view of Haroldson, fail to disclose configuration information for at least one streaming media server, where the configuration information comprises "a single file benchmark and a unique file benchmark" as claimed.

Examiner respectfully disagrees with applicant's assertions.

1. With regards to c), the Examiner point out that the reference(s) used in the prior art rejection must be considered as a whole. The Examiner has cited particular figures, columns, line numbers, and/or paragraphs in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well.

Lumelsky discloses that the resources required by a particular application may be evaluated by a size of storage, memory, CPU cycle allocation, and bandwidth [Col. 12, Lines 26-36]. Lumelsky further illustrates how the streaming of different content will be associated with difference resource cost and measurements are made for different

classes of applications for various servers [Fig. 10; Col. 12, Lines 27-50]. To compute the capacity of the server configurations over a duration of time (as shown in Fig. 9), the resources consumed by each content stream is used to determine the capacity of the servers [Fig. 12, Col. 53-57; see reference to U.S. Patent 6,463,454]. Therefore, Lumelsky discloses that the system computes a "service demand profile comprises...a corresponding computed *resource cost* of the at least one server configuration for serving the workload over the duration of time" (emphasis added).

2. With regards to d), the examiner points out that the pending claims must be "given the broadest reasonable interpretation consistent with the specification" [In re Prater, 162 USPQ 541 (CCPA 1969)] and "consistent with the interpretation that those skilled in the art would reach" [In re Cortright, 49 USPQ2d 1464 (Fed. Cir. 1999)]. The claim language does not clarify as to which "category" the "sub-category" is under. Without further clarity,

Lumelsky discloses that the resources required by a particular application may be evaluated by the size of the storage, memory, CPU cycle allocation, and bandwidth resources that are required to stream the content [Col. 12, Lines 30-36]. Lumelsky further discloses that the various data streams are categorized by the type of content serviced, MPEG-1 and MPEG-2 content [Fig. 10; Col. 12, Lines 37-50]. It is well known in the art that MPEG-1 and MPEG-2 are types of compression methods that conform to certain bitrates (MPEG-1 at around 1.5 Mbits/s and MPEG-2 at around 3-15 Mbits/s). Therefore, the concurrent streams are categorized into corresponding encoding bit rates (i.e. MPEG-1 or MPEG-2). These concurrent streams are then further categorized into

storage and service bins that are required to service these streams [Col. 12, Lines 26-50]. Therefore, the concurrent streams are further sub-categorized into disk accesses (storage accesses) and server capacity accesses.

Also, the Examiner reminds the Applicant that there are several references to the commonly owned U.S. Patent 6,463,454 describing in greater detail the method of monitoring overall resources when several applications are running in parallel where the streams are categorized by the corresponding demand rate which is incorporated into Lumelsky [See Patent 6,463,454, Fig. 11(c)].

3. With regards to e), the Applicant relies on the rationale used for Claims 28 and 32. The Applicant's arguments regarding Claims 28 and 32 have been addressed above.

The Examiner has found the arguments to a), b), and f) persuasive.

Allowable Subject Matter

Claims 1 – 27, 38 – 41, and 44 are allowed.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 28 – 35, 37, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,516,350, invented by Leon L. Lumelsky et al. (hereinafter “Lumelsky”).

In the interest of expedited prosecution, the Examiner would like to note that several of the present claims (i.e., Claims 32 – 35, 37, and 43) use functional language to describe claim elements. For example, the terms “operable to” raise questions as to the limiting effect of the functional language that follows them. The Examiner recommends amending the claims to contain positive recitations of the actions performed by the claim elements, rather than merely stating that the elements are “operable to” perform some future act. In the event that a hardware element is intended to contain software, which when executed, causes the hardware element to perform a function, the language of the claim should clearly express that relationship.

In the interest of expedited prosecution, all of these limitations have been rejected below, but Application is encouraged to amend the “operable to” claims so that the claimed functions are positively recited, to ensure that those limitations may be given patentable weight.

4. Regarding Claim 28, Lumelsky discloses a method (Col. 5, Lines 12-15) comprising of receiving workload information identifying an expected workload of client accesses of streaming media files from a server over a period of time [Col. 8, Lines 66-67; Col. 9, Lines 1-8; finds their rate, density and proximity] and determining a service demand profile for at least one server configuration under evaluation for evaluating a capacity of said at least one server configuration for supporting the expected workload

[Col. 7, Lines 4-8; monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request], wherein said service demand profile comprises a plurality of pairs of information, each pair comprising an identification of a duration of time in said period of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time [Fig. 9; Col. 12, Lines 2-7; the SCP determines when additional resources are required to meet the service demands where there are time intervals to determine when one server cannot meet all the demands based on its capacity].

5. Regarding Claim 29, Lumelsky discloses all the limitations of Claim 28 and further discloses a method further comprising of receiving at least one service parameter [Col. 9, Lines 45-50].

6. Regarding Claim 30, Lumelsky discloses all the limitations of Claim 29 and further discloses a method wherein said at least one service parameter comprises information identifying at least one performance criteria desired to be satisfied by said at least one server configuration under the expected workload [Col. 9, Lines 45-50].

7. Regarding Claim 31, Lumelsky discloses all the limitations of Claim 29 and further discloses a method further comprising of evaluating the determined service demand profile for the at least one server configuration to determine whether the at least one server configuration satisfies the received at least one service parameter [Col. 9, Lines 45-50 and 58-64].

8. Regarding Claim 32, Lumelsky discloses a system [Col. 5, Lines 12-15]

comprising of a media profiler operable to receive a client access log collected over a period of time for a service provider's site [Col. 10, Lines 21-26; user preferences, such as interactivity level] and generate a workload profile for the service provider's site [Col. 7, Lines 4-8; monitoring with respect to the performance of multiple end resources and clients and their usage patterns so as to provide parameters on where, when, and how to satisfy a request], wherein said workload profile comprises, for a plurality of different points in time [Fig. 9; workload viewed in various points of time], identification of a number of concurrent client accesses [Fig. 9; number of client accesses calculated], wherein the number of concurrent client accesses are categorized into corresponding encoding bit rates of streaming media files accessed thereby and are further sub-categorized into either memory or disk accesses [Figs. 10 and 11; Col. 12, Lines 36-41; to fulfill a request the use of any combination of storage, memory, processing power, and bandwidth is determined], and a capacity evaluator operable to receive the generated workload profile and evaluate at least one server configuration's capacity for supporting the site's workload [Col. 9, Lines 45-50, mapping requests to the particular server(s) based on factors such as aggregate demand statistics and willingness of the servers to provide the requested services].

9. Regarding Claim 33, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein said capacity evaluator is further operable to receive configuration information for said at least one server configuration [Col. 10, Lines 33-39].

10. Regarding Claim 34, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein in evaluating said at least one server configuration's capacity, said capacity evaluator determines whether said at least one server configuration is capable of supporting the site's workload in accordance with at least one service parameter [Col. 10, Lines 26-39].

11. Regarding Claim 35, Lumelsky discloses all the limitations of Claim 34 and further discloses a system wherein said at least one service parameter comprises information identifying at least one performance criteria desired to be satisfied by said at least one server configuration under the site's workload [Col. 10, Lines 26-39].

12. Regarding Claim 37, Lumelsky discloses all the limitations of Claim 32 and further discloses a system wherein in evaluating said at least one server configuration's capacity said capacity evaluator is operable to generate a service demand profile for said at least one server configuration [Col. 9, Lines 58-64].

13. Regarding Claim 43, Lumelsky discloses all the limitations of Claim 37 and further discloses that the service demand profile comprises a plurality of pairs of information, each pair comprising identification of a duration of time in said period of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time [Fig. 9; Col. 12, Lines 2-7; the SCP determines when additional resources are required to meet the service demands where there are time intervals to determine when one server cannot meet all the demands based on its capacity].

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Regarding Claim 42, Lumelsky discloses all the limitations of Claim 28 above. Lumelsky does not disclose that the configuration information comprises a single file benchmark and a unique file benchmark for the at least one streaming media server.

Haroldson discloses a system and method for calculating usage data related to multimedia broadcasts includes a single file benchmark and a unique file benchmark for the at least one streaming media server [Para. 0005; calculating concurrent connections for a particular server and/or a specific data stream]. It would have been obvious to one skilled in the art at the time of the invention to calculate the concurrent connections for a particular server and a specific data stream since one sever can host more than one data stream and likewise, one data stream can be hosted by more than one server. Retrieving this information will allow a content provider to more accurately bill a user based on more accurate usage information for that particular content.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner's Note: Examiner has cited particular figures, columns, line numbers, and/or paragraphs in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,594,699 B1; U.S. App. 2001/0027479 A1; U.S. App. 2002/0029273 A1; U.S. Patent 5,732,239 AA1; U.S. Patent 6,067,107 A1; U.S. Patent 6,263,361 B1; U.S. Patent 6,279,039 B1; U.S. Patent 6,330,609 B1; U.S. App. 2002/0083124 A1; U.S. App. 2002/0129048 A1; U.S. Patent 6,466,980 B1; U.S. App. 2002/0156552 A1.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae K. Kim, whose telephone number is (571) 270-1979. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne, can be reached on (571) 272-4001. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the examiner at (571) 270-2979.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Tae K. Kim/
Examiner, Art Unit 2453

April 24, 2009

/ARIO ETIENNE/
Supervisory Patent Examiner, Art Unit 2457